SLX-100

transmitter & receiver pair

smartLynx

user guide

also available:
SLX-111, SLX-214

for more information visit our website, or talk to one of our technical team
tel: +44 (0) 1306 628264, www.smart-e.co.uk

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Introducing SmartLynx Cat5 AV Extender

What's in the box?

Thank you for buying the Smart-e SmartLynx Cat5 AV Extender. Depending on the configuration of your system various quantities of the parts below may be included in your shipment.
If any of the accessories listed below are missing please contact the Smart-e dealer you purchased products from or contact Smart-e customer support at:

+44 (0) 1306 628264

If you ordered a SmartLynx Set:

Item	Description	SLX-100
Transmitter Unit	One Input and one Cat5 Output	Yes
Receiver Unit	One Cat5 Input and one Output	Yes
Power Supply	24Volt 20Watt earthed PSU	Yes
Mains Cable	Fig8 Mains Lead	Yes

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Introducing SmartLynx Cat5 AV Extender

What is SmartLynx?

The SmartLynx is a combination of transmitter and receiver devices designed to transmit high resolution computer video and/or audio signal over Cat5 wire. AV stands for Audio Visual and includes such signal formats as Broadcast Video (TV video signal), Computer Video (VGA, SVGA, SXGA and etc. signals) and various formats of Audio signals.

Why is SmartLynx necessary?

Sometimes AV signals need to be transmitted over distances greater than commonly specified product limitations of 5m. In this case several choices are available, but most are expensive and bulky, which is in some cases simply not practical, due to space limitations in the conduits.
The SmartLynx allows the transmission of AV signals over a standard Cat5 UTP cable over distances of up to 300m. The actual distance is a function of the signal resolution and cable quality. The following is a rough guide to distance and resolution:

Cat5 Cable Length	Maximum Recommended Resolution
200m	UXGA (1600x1200)
200m	1080p (1920x1080)
300m	SXGA (1280x1024)

How does SmartLynx work?

The Smart-e SmartLynx is a transmitter and receiver pair designed to extend video, stereo audio and IR/RS232 signals over (UTP) unshielded twisted pair category 5 (Cat5) cabling. They are supplied with a UK power supply and consist of: a transmitter with a video input (connectors vary by model), an audio input and a Cat5 output and; a receiver with a cat5 input and corresponding outputs. Certain models are also supplied with local outputs and/or IR or RS232 connections.

The extended signals depends on the model but supported signals are UXGA, CVBS, YUV (YPbPr), Y/C and RGsB analogue format and Stereo Audio. The basic concept behind this product is the ability to encode and decode analogue signal combined with precise line equalization and compensation.

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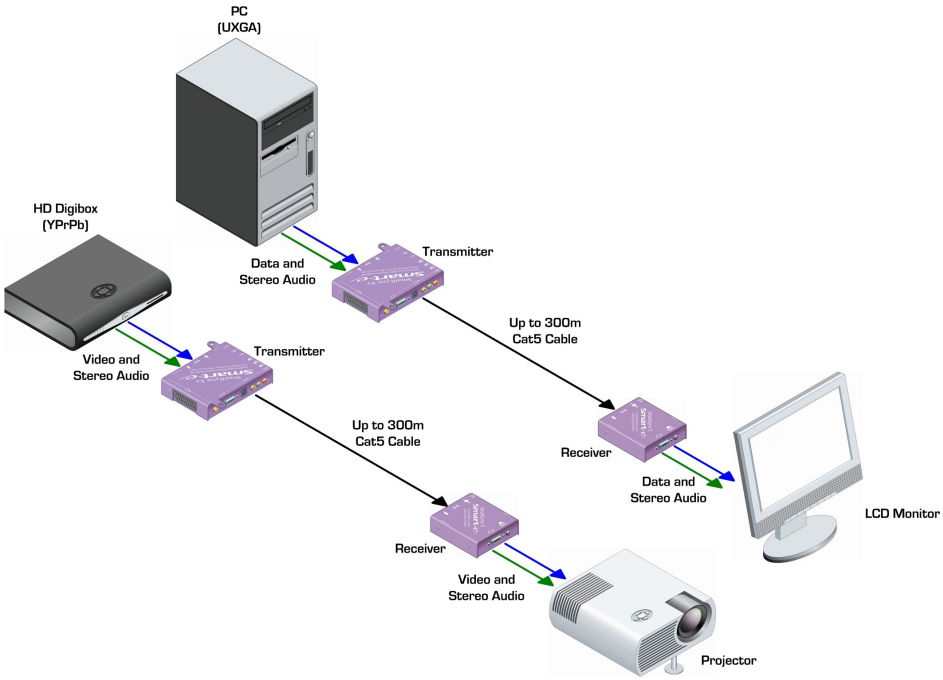
Installation and Operation

1. Preparing for installation

Start installation process by ensuring that all video displays and audio devices are compatible with the computers being used.
This is accomplished by connecting the devices directly to the computer and checking that the devices operate as desired without the SmartLynx system.
Potential System Set-ups:



Install CAT-5 wiring between desired locations. In order to minimize system operation difficulties, avoid routing the system cables near fluorescent lights, air conditioners, or machines that may create electrical noise.

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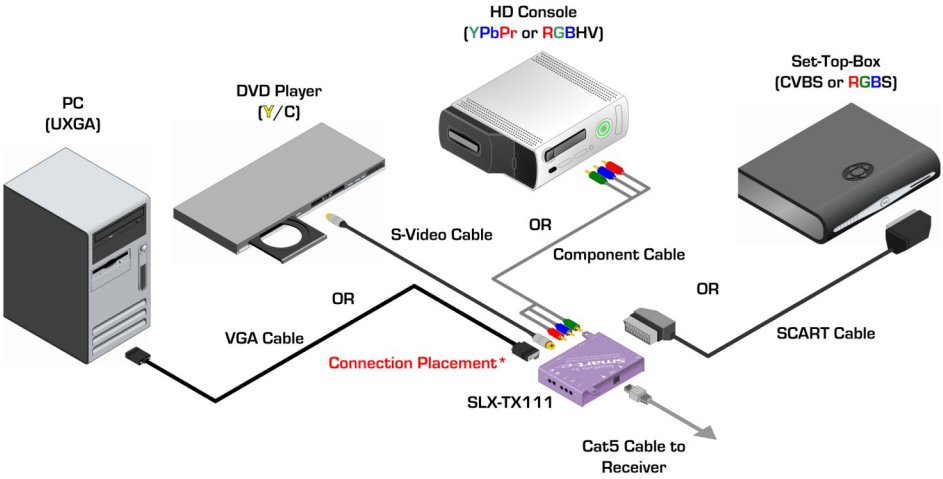
2. Connect Transmitter to the video signal source

2.1 Connect the video output of the source device to the appropriate input of the transmitter using the relevant cable.

2.2 Although there are multiple connector types, only **ONE** feed of video may be routed by the product at any one time, the multitude of connectors are to simplify installations.



*SLX-TX111
Connection Placement

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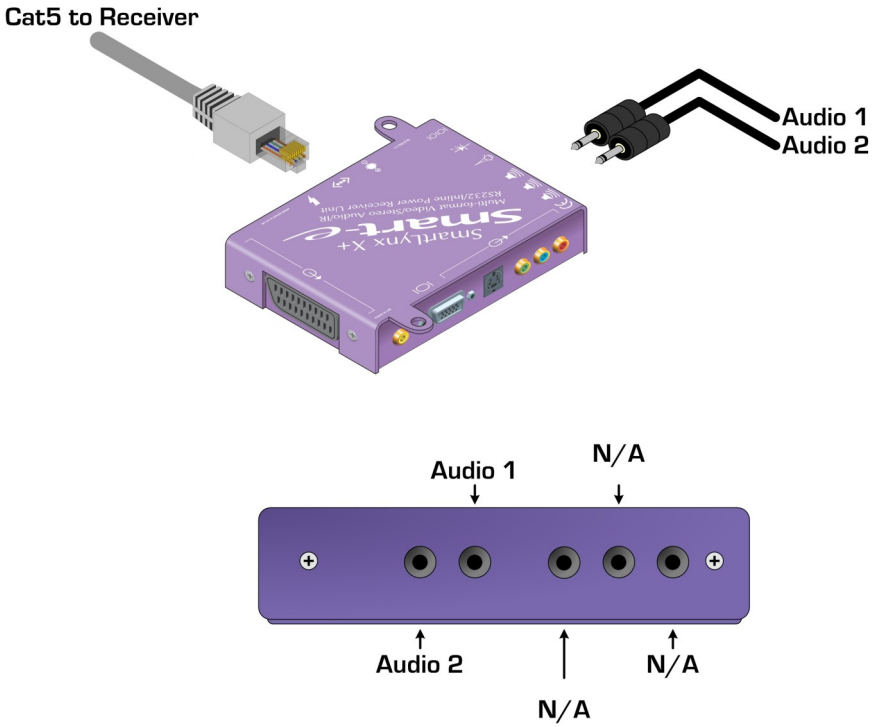
3. Connect Transmitter to the audio signal source

3.1 Connect the audio output of the source device to the 'audio in' mini jack connectors on the SLX-TX111, using an interface cable if appropriate.

3.2 Either inputs 'Audio 1' or 'Audio 2' may be used but **NOT** simultaneously.



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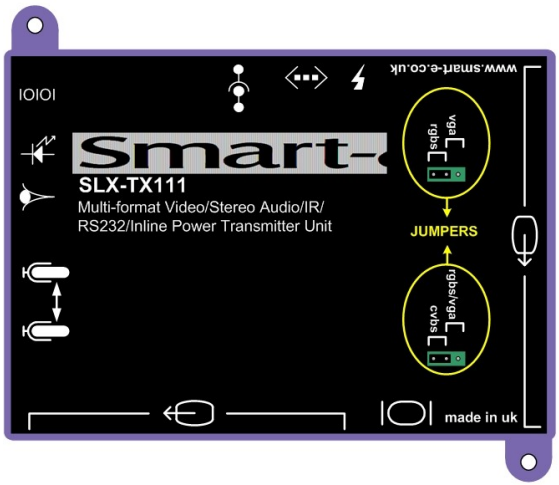
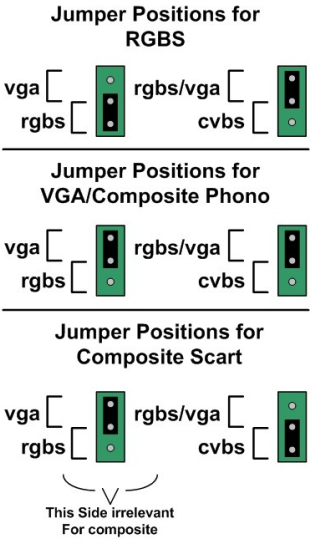
4. Jumpers on the base of the unit - DO NOT TOUCH when used as part of SLX-100 system

4.1 The diagram below illustrates how the jumpers must be set for each required video format.

4.2 Unit will come preset to VGA, as the SLX-RX100 receiver is not designed to be able to receive RGBS.





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5. System Power up

5.1 Turn the system on by plugging in the power adapter to the SmartLynx Transmitter (or Receiver if preferred)

5.2 Power up your computer.

5.3 Observe both transmitter and receiver power LED are ON, and source device is switched on.

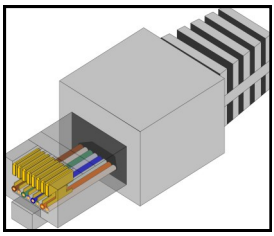
6. Preparing and connecting System CAT-5 cable

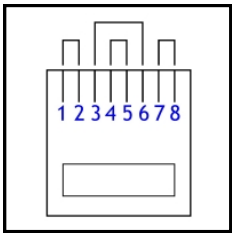
The SmartLynx utilizes category 5 (CAT 5), unshielded twisted pair (UTP) cable to transport signal between transmitter and receiver.

CAT 5 cable is more desirable than coaxial cable due to its low cost and ease of installation. This cable is used for LAN applications and is found in abundance, already installed, in many buildings . The category 5 is a standard which establishes minimum requirements for telecommunications cabling within a commercial building. The standard covers various aspects of wiring including telecommunications outlets.

Following is the wiring standard for terminating CAT 5 cable using RJ 45 connector:

Pair 1 Pins 1 & 2
Pair 2 Pins 3 & 6
Pair 3 Pins 4 & 5
Pair 4 Pins 7 & 8





Connectors: RJ-45
Capacitance: 14 pf/ft (46.2 pf/m)
Conductor Gauge: 24 AWG
Impedance: 100 +/- 15 ohms
4 - Pair

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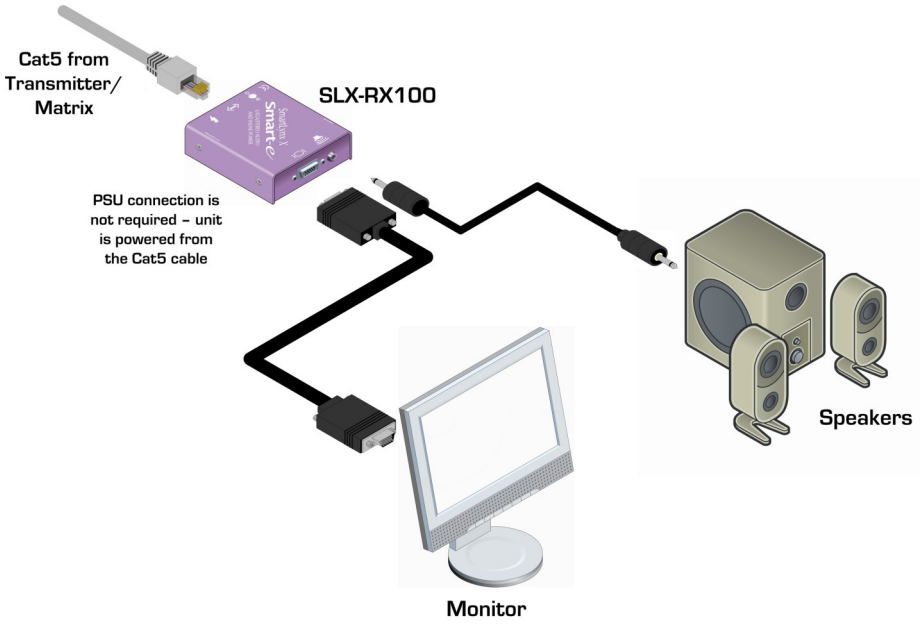
Installation and Operation of Receiver

1. Connecting SLX-RX100 to the display device

1.1 Making sure that the Cat 5 cable is connected to the SLX-TX111 transmitter output, connect the cable to the RJ45 socket on the receiver unit.

1.2 If the cable connection is correct the power LED on the front of the receiver should illuminate (power is sent up the Cat 5 cable).

1.3 Connect the display to relevant connector on the receiver (see diagram below) using the appropriate cable.


Cat5 from Transmitter/ Matrix
SLX-RX100
PSU connection is not required – unit is powered from the Cat5 cable
Speakers
Monitor

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2. Setting the cable length dials

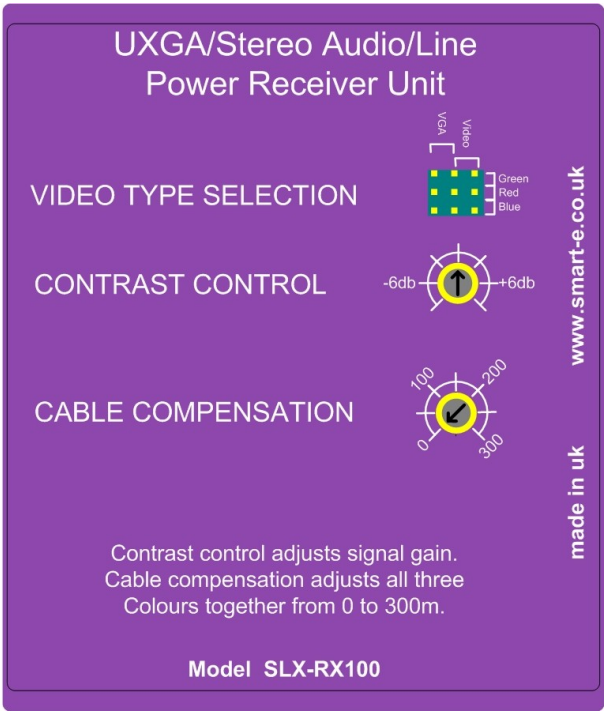
The Receiver unit is preset for approximately 50m which is sufficiently accurate for most applications. However if the image does not look sharp enough then follow the instructions below

2.1 Whilst looking at an image on the display, preferably a long horizontal bar, adjust the CABLE COMPENSATION dial.

2.2 Looking at the right-hand edge of the bar you will see the image change. A highlighting bright edge means over compensation, whilst a blurred dark edge means under compensation.

2.3 Adjust the dial until both effect are neutralized.

The Contrast control dial is factory pre-set and usually needs no adjustment.



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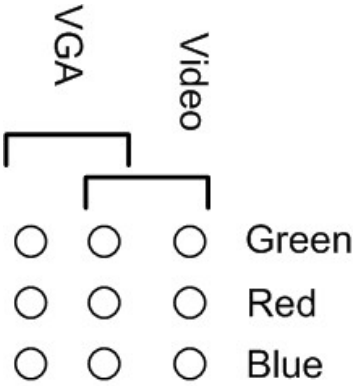
3. Sync Processing

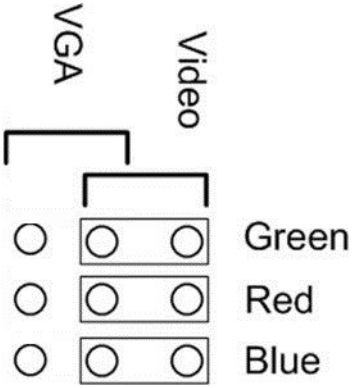
For VGA applications the Transmitter adds the Horizontal and Vertical Sync Pulses to the Blue and Red channels. However, since the unit has been designed for use with other types of video the Receiver provides the ability to pass both the Red and Blue channels transparently or process them to remove the Sync Pulses.



3.1 For composite, y/c and YP_bP_r (component) the jumpers must be set in the Video position.

3.2 For VGA the jumpers must be set in the VGA position.

The example below shows the jumpers set for composite, s-video or component



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SLX-100

Video Input	
Signal Type - Connector	UXGA-HD15/YUV/YPbPr - 3xRCA/YC - 4pin minidin
Bandwidth	400MHz
Impedance	75 Ohm
Audio Input	
Signal Type	Stereo Audio
Bandwidth	20kHz, 0dB
Impedance	10k Ohm
Connector	3.5mm minijack socket
Video Output	
Signal Type - Connector	UXGA/YUV/YPbPr/YC/composite phono
Bandwidth	400MHz
Impedance	75 Ohm
Audio Output	
Signal Type	Stereo Audio
Bandwidth	20kHz, 0dB
Impedance	100 Ohm
Connector	3.5mm minijack socket
Power	
Requirement - Connector	24VDC 500mA - 5mm x 2.1mm
Dimensions	
Size	90 x 80 x 21 mm
Weight	0.2kg

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Troubleshooting

No video?

1) Are the green LEDs on both the transmitter and receiver units? If not check that the 24V power supply (PSU) is connected and the LED on the PSU is lit. Check the cable compensation dials on the underside of the unit. Over compensation of the Red and Blue channels can cause the display to misinterpret the sync pulses and not display an image.
2) Is the video source a laptop or floating? (a floating source is one which has no earth reference i.e. uses a double insulated PSU or a figure 8 mains cable). If so make sure the PSU is an earthed unit when not using the PSU supplied.
3) Is the audio input level too high? The audio level should be set to line level (0dB or 700mV peak to peak) to prevent interference.

Display has problems syncing?

1) Is the audio input level too high? The audio level should be set to line level (0dB or 700mV peak to peak) to prevent interference.

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Appendix

Limited Warranty Statement

A. Extent of limited warranty

1. Smart-e (UK) Ltd warrants to the end-user customers that Smart-e product specified above will be free from defects in materials and workmanship for the duration of 1 year, which duration begins on the date of purchase by the customer. Customer is responsible for maintaining proof of date of purchase.
2. Smart-e warranty covers only those defects which arise as a result of normal use of the product, and do not apply to any:

   a. Improper or inadequate maintenance or modifications

   b. Operations outside product specifications

   c. Mechanical abuse and exposure to severe conditions
3. If Smart-e receives during applicable warranty period notice of defect, Smart-e will at its discretion replace or repair defective product . If Smart-e is unable to replace or repair defective product covered by the Smart-e warranty within reasonable period of time Smart-e shall refund the cost of the product.
4. Smart-e shall have no obligation to repair, replace or refund unit until customer returns defective product to Smart-e.
5. Any replacement product could be new or like new, provided that it has functionality at least equal to that of the product being replaced.
6. Smart-e warranty is valid in any country where the covered product is distributed by Smart-e.

B. Limitations of warranty

TO THE EXTENT ALLOWED BY LOCAL LAW, NEITHER SMART-E NOT ITS THIRD PARTY SUPPLIERS MAKE ANY OTHER WARRANTY OR CONDITION OF ANY KIND WHETHER EXPRESSED OR IMPLIED , WITH RESPECT TO THE SMART-E PRODUCT , AND SPECIFICALLY DISCLAIM IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY , AND FITNESS FOR A PARTICULAR PURPOSE

C. Limitations of liability

To the extent allowed by local law the remedies provided in this warranty statement are the customers sole and exclusive remedies

TO THE EXTENT ALLOWED BY LOCAL LAW , EXCEPT FOR THE OBLIGATIONS SPECIFICALLY SET FORTH IN THIS WARRANTY STATEMENT , IN NO EVENT WILL SMART-E OR ITS THIRD PARTY SUPPLIERS BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES WHETHER BASED ON CONTRACT , TORT OR ANY OTHER LEGAL THEORY AND WHETHER ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

D. Local law

To the extent that this warranty statement is inconsistent with local law, this warranty statement shall be considered modified to be consistent with such law

Partial Product List

Product Range	Product Code	Description
SmartLynx - X	SLX-100 SLX-400	Transmitter and Receiver Pair Transmitter and Receiver Pair
SmartLynx-X +	SLX-111 SLX-211 SLX-212	Transmitter and Receiver Pair with RS232/IR Transmitter and Receiver Pair with RS232/IR Dual Transmitter and Receiver Pair with RS232/IR
SmartCast - X	SCX-TX600	One to Six Transmitter Unit
SmartCast-X+	SCX-TX550	One to Five Transmitter Unit with RS232/IR
SmartCast System	TUSC-1042 SCX-TX120E SCX-TX550E SLX-RX100ES	SmartCast Eurocard Rack (Up to 16 cards) Dual Screen Transmitter Eurocard One to Five Transmitter Eurocard with RS232/IR Eurocard Receiver for UGXA,YUV,Y/C, and Audio
SmartNet-X+ Matrix Switches	SNX-8x8+ SNX-16x16+	8 x 8 Distribution Matrix 16 x 16 Distribution Matrix (Up to 256 x 256)
SmartNet-X+ Matrix Bundles	SNX-8X8IRP SNX-8X8RSP	Complete Infrared Controlled 8X8 Matrix Package Complete RS232 Controlled 8X8 Matrix Package

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